FIG. 1.

NETWORK DRIVE
OR
TEACHER HARD DRIVE

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HAND-IN PROGRAM

ALLOWS STUDENTS TO SUBMIT THEIR PAPERS ELECTRONICALLY TO A NETWORK DRIVE WHICH THEY HAVE ACCESS TO OR TO THE TEACHER'S HARD DRIVE, DEPENDING ON HOW THE TEACHER DECIDES TO SET IT UP. THE PROGRAM STORES THE STUDENTS' PAPERS IN THEIR TEACHER'S ARCHIVE. EACH SENTENCE OF THE DOCUMENT IS CONVERTED INTO A NUMBER USING THE FORMULA:, SENTENCE VALUE EQUALS

$$\sum_{i}^{n} (a_i)^2$$

WHERE n IS THE NUMBER OF CHARACTERS IN THE SENTENCE, AND a_i IS THE ASCII VALUE OF THE ith CHARACTER IN THE SENTENCE. THE ORIGINAL TEXT AND THIS NUMBER IS STORED IN THE ARCHIVE. THE SENTENCE VALUE IS STORED FOR SORTING/COMPARING PURPOSES BY THE VALIDATION AND PLAGIARISM PREVENTION PROGRAMS. THIS PROGRAM ONLY ACCEPTS DOCUMENTS THAT ARE IN .TXT FORMAT.

VALIDATION PROGRAM

ALLOWS TEACHERS TO VIEW THE EXACT DOCUMENTS THAT THE STUDENTS TURNED IN. THEY MAY SIMPLY CHECK ON A NAME OF A STUDENT THAT SUBMITTED WORK AND ALL OF THE TEXT THAT THEY SUBMITTED IS DISPLAYED. THIS ALLOWS TEACHERS TO VERIFY THAT "JUNK" DOCUMENTS HAVE NOT BEEN SUBMITTED. IT ALSO ALLOWS TEACHERS TO VIEW THE LIST OF STUDENTS THAT TURNED IN WORK.

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PLAGIARISM PREVENTION PROGRAM

ALLOWS THE TEACHER TO SELECT ANY ARCHIVE TO COMPARE THEIR STUDENTS' WORK AGAINST. THE ARCHIVE COULD CONTAIN OTHER TEACHERS' STUDENTS' WORK, INTERNET PAPERS, OR PAST STUDENTS' WORK. AFTER AN ARCHIVE IS SELECTED, ALL STUDENT FILES ARE READ IN, AND THE SENTENCE VALUES ARE SORTED. THE PROGRAM THEN "SCROLLS" DOWN THE LIST TO FIND SENTENCES THAT ARE ESSENTIALLY IDENTICAL. IF SUCH SENTENCES ARE FOUND, THEN THE SOURCES ARE RECORDED. WHEN THE "SCROLLING" IS COMPLETED, THE SOURCES THAT MATCH AND THE QUANTITY OF OCCURRENCES ARE REPORTED. THE TEACHER MAY THEN RUN HIS ARCHIVE AGAINST ANOTHER, ARCHIVE HIS CURRENT STUDENTS' WORK, AND/OR PRINT OFF ANY MATCHING SOURCES.
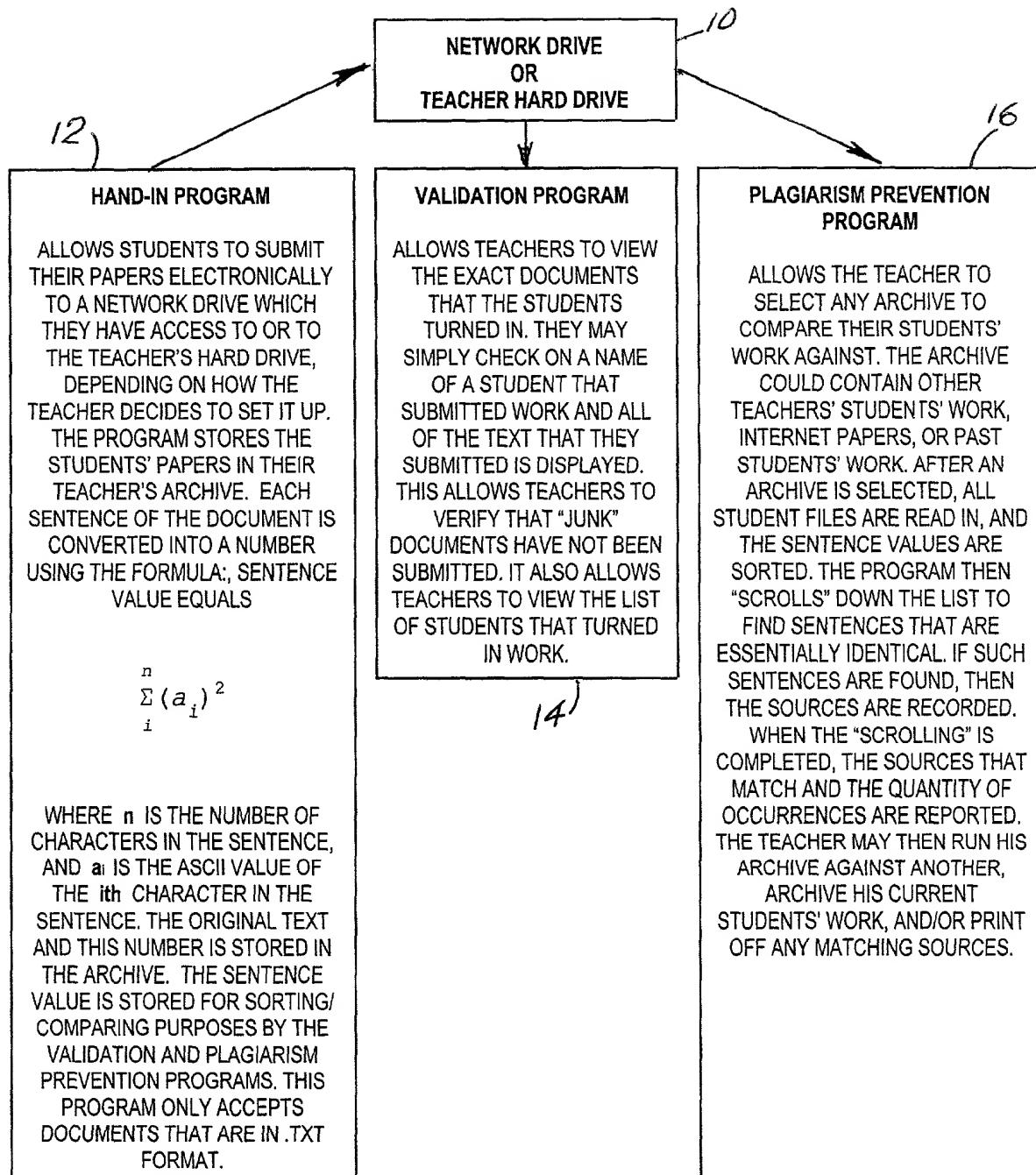
FIG. 2.

HAND-IN PROGRAM ⌒12

- STUDENT INPUTS PASSWORD AND TEACHER ID ⌒22
- VERIFY PASSWORD AND ID ⌒24
- SET CURRENT DIRECTORY BASED ON TEACHER ID ⌒26
- ALLOW STUDENT TO SELECT FILE TO HAND IN ⌒28
- READ IN STUDENT FILE ⌒30
- STORE EACH SENTENCE OF STUDENT FILE IN AN ARRAY OF STRING VARIABLES ⌒32
- TRANSLATE EACH SENTENCE INTO A NUMERICAL VALUE AS FOLLOWS: ⌒34
  - SET THE NUMERICAL VALUE OF THE SENTENCE TO ZERO ⌒36
  - GET THE ASCII VALUE OF THE CURRENT CHARACTER AND SQUARE IT ⌒38
  - ADD THE SQUARED VALUE TO THE NUMERICAL VALUE BEING ACCUMULATED FOR THE SENTENCE ⌒40
  - REPEAT THE TWO IMMEDIATELY PRECEDING SUBSTEPS THROUGH THE END OF THE SENTENCE ⌒42
- CREATE A FILE FOR THE STUDENT IN THE TEACHER'S ARCHIVE BASED ON THE TEACHER ID ⌒44
  - WRITE THE ORIGINAL SENTENCE ON THE NEXT AVAILABLE LINE OF THE FILE ⌒46
  - WRITE THE NUMERICAL VALUE OF THE SENTENCE ON THE NEXT AVAILABLE LINE OF THE FILE ⌒48
- REPEAT THE TWO IMMEDIATELY PRECEDING SUBSTEPS UNTIL ALL SENTENCES AND NUMERICAL VALUES HAVE BEEN WRITTEN TO THE FILE ⌒49

VALIDATION PROGRAM ⌒14

- TEACHER INPUTS TEACHER ID ⌒50
- SET CURRENT DIRECTORY BASED ON TEACHER ID ⌒52
- READ IN ALL FILES FROM CURRENT DIRECTORY ⌒54
- DISPLAY A LIST OF ALL STUDENTS THAT TURNED IN WORK ⌒56
- SELECT A STUDENT'S NAME TO VIEW THE DOCUMENT THAT HE TURNED IN ⌒58
- DISPLAY THE SELECTED STUDENT'S DOCUMENT IN A RICH TEXT FORMAT BOX ⌒60

PLAGIARISM PREVENTION PROGRAM ⌒16

- TEACHER INPUTS TEACHER ID ⌒62
- SET CURRENT DIRECTORY BASED ON TEACHER ID ⌒64
- TEACHER SELECTS EITHER OTHER ARCHIVES, OR DOCUMENTS IN THE CURRENT DIRECTORY TURNED IN BY OTHER STUDENTS, FOR COMPARISON ⌒66
- READ IN EACH DOCUMENT FROM THE SELECTED ARCHIVES OR DIRECTORY ⌒68
  - ONLY THE NUMERICAL VALUES OF THE SENTENCES ARE READ IN AND STORED AT THIS TIME ⌒70
- NUMERICAL VALUES OF ALL SENTENCES ARE SORTED USING A COMB-TYPE SORT ⌒72
- CHECK FOR ESSENTIALLY IDENTICAL SENTENCES BY SCROLLING THROUGH THE SORTED LIST ⌒74
  - COMPARE THE CURRENT VALUE WITH THE NEXT VALUE ⌒76
  - IF ESSENTIALLY THE SAME VALUE, RECORD THAT TWO SENTENCES MATCH, CHECK THE NEXT VALUE ⌒78
  - IF NOT ESSENTIALLY THE SAME VALUE, NEXT ELEMENT ON THE LIST BECOMES THE CURRENT VALUE ⌒80
  - REPEAT THE THREE IMMEDIATELY PRECEDING SUBSTEPS UNTIL ENTIRE LIST HAS BEEN CHECKED ⌒82
- REPORT THE SOURCES THAT HAD MATCHING SENTENCES ALONG WITH THE NUMBER OF OCCURRENCES ⌒84
- ALLOW TEACHER TO SELECT ANOTHER ARCHIVE TO COMPARE SENTENCE VALUES WITH ⌒86
- ALLOW TEACHER TO ARCHIVE AND NAME CURRENT DIRECT DIRECTORY FOR FUTURE USE ⌒88